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ZNR UUUUU ZZH
R 231200Z DEC 09
FM AMCONSUL KOLKATA
TO RUEHC/SECSTATE WASHDC 2519
INFO RUEHNE/AMEMBASSY NEW DELHI 2421
RUEHCG/AMCONSUL CHENNAI 1023
RUEHBI/AMCONSUL MUMBAI 1026
RUEHNEH/AMCONSUL HYDERABAD 0089
RUEHKA/AMEMBASSY DHAKA 0645
RUEAEPA/EPA WASHINGTON DC
RUEHRC/DEPT OF AGRICULTURE WASHINGTON DC
RUCPDO/DEPT OF COMMERCE WASHINGTON DC
RUEATRS/DEPT OF TREASURY WASHINGTON DC
RUCPDC/NOAA WASHDC
RHMFISS/DEPT OF ENERGY WASHINGTON DC
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UNCLAS SECTION 01 OF 02 KOLKATA 000335

SIPDIS

STATE FOR OES/PCI, OES/EGC, SCA/INSB, EEB/ESC/IEC AND EEB/TPP/BTA
STATE FOR SECC TODD STERN
DEPT OF ENERGY FOR TCUTLER, CGILLESPIE, MGINSBERG
TREASURY FOR DAS PIZER AND OFFICE OF SOUTH ASIA MNUGENT
USDOC FOR ITA/MAC/OSA/LDROKER/ASTERN/KRUDD
DEPT PASS TO USTR MDELANEY/CLILIENTFELD/AADLER
TREASURY PASS TO FRB SAN FRANCISCO/TERESA CURRAN
USDA PASS FAS/OCRA/RADLER/BEAN/FERUS

E.O. 12958: N/A

TAGS: [SENV](#) [ENRG](#) [ECON](#) [TSPL](#) [KSCA](#) [KGHG](#) [IN](#) [BG](#)

SUBJECT: CLIMATE CHANGE HERE AND NOW FOR SUNDERBANS: NGO'S ADAPTATION
ACTIVITIES SHOW PROMISE

REF: KOLKATA 255

11. (U) Summary: The famed Sunderbans, a deltaic region in the Bay of Bengal with more than one hundred islands and four million people, is one of India's most vulnerable areas to rising sea levels and extreme climatic events. On one of the islands, Mousuni, public and private actors have focused on adaptive agriculture, alternative livelihoods, renewable energy and embankment construction as part of their adaptation strategies. However, according to the NGO World Wildlife Fund (WWF) India in the long-term the most effective adaptation strategy for the island is to "educate and migrate" the growing population off of the vulnerable and eroding island. ConGen and EconFSN visited Mousuni Island from November 4-5 to see first-hand the impacts of climate change and speak with potential "climate refugees."

India and Bangladesh's Sunderbans Vulnerable to Rising Sea Levels

12. (U) The Sunderbans is a UN World Heritage site in the Bay of Bengal boasting a unique coastal zone ecology and wide range of flora and fauna, including the famed Bengal tiger. Approximately four million people reside on more than one hundred islands in the Indian Sunderbans, approximately half of which are inhabited. Sunderbans' population density of 878 persons per square kilometer is more than twice the Indian average. Agriculture, aquaculture, apiculture and tourism are the economic lifelines for the region. In addition to its natural beauty, the Sunderbans is also known for its extreme vulnerability to rising sea levels (Reftel). According to Dr. Sugata Hazra with the School of Oceanographic Studies at Jadavpur University in Kolkata, each year the seas rise an average of 3.14 mm in the Sunderbans. He predicts that more than 70,000 Sunderban residents will become climate refugees by 2020 due to coastal erosion and flooding.

WWF India Focuses on Adaptation Efforts on Mousuni Island

13. (U) WWF has chosen Mousuni Island, located in the southwestern most part of the Sunderbans directly on the Bay of Bengal, as the focus of its adaptation efforts. Coastal erosion correlated with sea level rise is particularly severe on this island. Twenty thousand people live on the 24 square kilometers and rely on agriculture, primarily rice, for subsistence and as a source of supplementary income. In February 2009 WWF established a climate adaptation center to formulate and pilot adaptive strategies for local communities to cope with climate variability and vulnerabilities due to sea level rise and periodic flooding. As an adaptive measure it successfully introduced salt-tolerant rice paddy seed that produces a higher yield than the more commonly used paddy variety, without the use of chemical fertilizers. It explored alternative livelihoods such as aquaculture by introducing salt-tolerant fish in brackish water ponds. To improve health and sanitation it piloted demonstration water filtration projects using sand and gravel filtration to make pond water potable.

State Government Pilots Renewable Energy: Solar, Biomass and Wind

14. (U) On the island, the West Bengal state government has focused on renewable off-grid solutions for power given the

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infeasibility of conventional grid electricity for the remote Sunderbans islands. It built two solar photovoltaic power plants (110 kW and 55 kW) to serve 5,000 households. For six hours every evening users can light efficient CFL bulbs and power other electrical devices, such as a cell phone charger or television, to study or connect with the outside world. A substantial number of households have also bought stand alone solar photovoltaic home lighting systems at government subsidized prices. Elsewhere in the Sunderbans, WBREDA operates a 500 kW biomass power plant on Gosaba Island, the region's largest island and commercial center, and a 2 MW wind farm on Bakkhali Island neighboring Mousuni. Unfortunately, given the poor wind conditions, the wind farm is idle from October to March and the plant load factor is only 17 percent.

Embankments Ineffective in Stopping the Seas and Protecting Land

15. (U) For a number of years the state government has built mud embankments on the island's sea-facing side to reduce erosion and prevent flooding. However, as tidal surges and cyclonic storms have become more intense over the years, these mud embankments provide feeble protection to the island community and often collapse. Along some coast lines, the government tried to construct concrete embankments but these have not been effective due to poor construction and design. Dr. Anurag Danda, WWF India's Sunderbans program manager, believes that the erosion will continue and the island will not be able to sustain its growing population. Education and vocational training is essential to wean the population away from agriculture. According to him, the most effective long-term adaptation strategy for the island is to "educate and migrate" the growing population off of the vulnerable and eroding island.

Comment

16. (U) As world leaders gathered in Copenhagen, thousands of miles away, on the island of Mousuni, residents complained about their eroding island and the salted soil. An NGO has piloted adaptive strategies in the hope that the state government will focus its resources and attention on the plight of these potential future "climate refugees". While the state government has up until now focused primarily on protecting forest and fauna in the Sunderbans delta, in the future, it may need to think less about short-term embankments, and more about the people and livelihoods that they are supposed to protect.

PAYNE